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Federal Communications Commission
Office of Secretary

William F. Caton
Acting Secretary
Federal Communications Commission
Mail Stop 1170
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Dear Mr. Caton:

Re: *CC Docket No. 96-98, Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*

In response to a staff inquiry, the attached information was delivered today to Mr. Anthony Bush, Mr. Bill Sharkey and Mr. Jim Schlichting. The requested material describes the treatment of capital costs in the Cost Proxy Model. Please associate this with the above referenced proceeding.

We are submitting two copies of this notice in accordance with Section 1.1206(a)(1) of the Commission's rules.

Please stamp and return the provided copy to confirm your receipt. Please contact me should you have any questions.

Sincerely,

Jay Bennett

Attachments

cc: A. Bush
B. Sharkey
J. Schlichting

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Purpose

To describe the methodology that identifies capital cost factors that can be applied to incremental investment. Capital costs are made up of Return and Income Taxes (RIT), depreciation expense, and Operating Taxes.

General Methodology

The following is a brief overview of the development of the capital cost factors. Following this section is a thorough discussion on the development of the RIT factor.

Return and Income Taxes

Return and income tax dollars are developed for each year of an investment's economic life. Next from the yearly RIT dollars, average annual RIT dollars are developed. If the original investment is one dollar, the average annual RIT dollars is actually a factor that can be applied to incremental investment.

Depreciation Expense

Depreciation expense is developed using the estimated economic life. The depreciation factor is the depreciation rate which is:

$$\textit{Depreciation Factor} = \frac{1}{\textit{economic life}}$$

Operating Taxes

The operating Tax Factor is identified as a relationship of Other Operating Taxes to Gross Investment.

$$\textit{Operating Tax Factor} = \frac{\textit{Other Operating Taxes}}{\textit{Gross Investment}}$$

Methodology (using a mid-year convention) for RIT

Definitions

The following is the definition for the rate of return (r)

$$r = \%_e \times r_e + (1 - \%_e) \times r_d$$

where: r = rate of return
$\%_e$ = % of ISF that is equity
r_e = return on equity
r_d = return on debt

The following is the definition for the Net Investment Base (NIB) (i.e., the Rate Base) for year i (assuming an investment of $1[1]):

$$NIB_i = NIB_{i-1} - BD_i - t_c \times (TD_i - BD_i)$$

where: NIB = Net Investment Base
BD = Book Depreciation (based on economic lives)
t_c = composite tax rate
TD = tax depreciation

For the previous equation to be used for a mid-year convention, the following will be used:

$$BD_1 = (\tfrac{1}{2}) \times (depreciation\ factor)$$

Calculation of annual RIT

To calculate annual RIT which is a combination of the return and income taxes:

$$RIT = R + T$$

$$R = NIB \times r$$

$$T = NIB \times \frac{\%_e \times r_e \times t_c}{1 - t_c}$$

where: R = Return
NIB = Net Investment Base
r = rate of return
T = Income Taxes
t_c = composite tax rate
r_e = return on equity
$\%_e$ = % of ISF that is equity

[1] An investment of $1 is used to develop a levelized RIT factor which then can be applied to total gross investment

to yield:

$$RIT = NIB \times \left(r + \frac{\%_e \times r_d \times t_c}{1-t_c} \right)$$
$$= NIB \times \left(\%_e \times r_e + +(1-\%_e) \times r_d + \frac{\%_e \times r_d \times t_c}{1-t_c} \right)$$
$$= NIB \times \left(\frac{\%_e \times r_e + +(1-\%_e) \times r_d \times (1-t_c)}{1-t_c} \right)$$
$$= NIB \times \left(\frac{r^*}{1-t_c} \right)$$

where: NIB = Net Investment Base
r = rate of return
T = Income Taxes
t_c = composite tax rate
r_e = return on equity
r_d = return on debt
$\%_e$ = % of ISF that is equity
r^* = after tax rate of return

Present Value of RIT for the economic life of the investment

The following equation is the present value of RIT for the life of the investment[2]:

$$PV(RIT) = \left[\sum_{t=1}^{L} \frac{\left\{ NIB_t \times \left[\frac{r^*}{1-t_c} \right] \right\}}{(1+r^*)^t} + s + I \right] \times \sqrt{1+r^*}$$

where: L = Economic Life
NIB = Net Investment Base
r^* = after tax rate of return
t_c = composite tax rate
s = net of salvage less cost of removal
I = interest during construction

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[2] Because the economic rate usually does not generate a whole number for book life, the final year's values will be smaller because only a portion of the year remained before the investment was fully depreciated. This will not cause a major impact for the final year of investment will be minimal after it has been present valued.

Annualized RIT factor

Once the PV of RIT over the life of the investment has been calculated, an annuity can be developed creating an annual RIT factor:

$$(RIT)_{annual} = \frac{PV(RIT)_{NIB}}{1-\left(\frac{1}{1+r^*}\right)^L}$$

where: L = Economic Life
NIB = Net Investment Base
r^* = after tax rate of return
t_c = composite tax rate

Application

The following factors are applied to incremental gross investment using the following formulas to produce unit RIT and depreciation dollars.

For RIT:

$$RIT\ costs_{FRC} = Incremental\ Investment_{FCR} \times RIT\ factor_{FRC}$$

For depreciation:

$$Depreciation\ expense_{FRC} = Incremental\ Investment_{FCR} \times Depreciation\ factor_{FRC}$$

For Operating Taxes:

$$Operating\ Tax\ expense_{FRC} = Incremental\ Investment_{FCR} \times Operating\ Tax\ factor_{FRC}$$